



3 Trail Classifications & Design Guidelines

This chapter describes the Presidio's trails and bikeways classification system and design guidelines including accessibility guidelines. The guidelines are intended to be flexible and anticipate that constraints defined by resource protection goals, safety, or topography will on occasion require an alternative trail design within identified corridors.

This chapter also summarizes the Best Management Practices (BMPs) that would be incorporated in all action alternatives. BMPs are trail construction techniques that incorporate resource conservation and management practices to avoid or minimize adverse impacts to natural and cultural resources. The trail BMPs are mitigation measures included in the action alternatives to avoid, reduce the severity of, or eliminate adverse environmental impacts from trail construction and maintenance activities.

User Groups

To ensure that all visitors are served, the needs of many different bikeway and trail users are addressed:

- **Pedestrians** of all kinds, from those seeking physically challenging walks to those who want a convenient connection between two activity centers. This group includes



Cyclist on Arguello Boulevard

recreational walkers, commuters and exercisers of different abilities.

- **Bicycle commuters** who live or work in the Presidio or pass through the Presidio want a direct, easy-to-use route to their workplace. Most of these bicyclists would prefer bike lanes or low-volume roadways, and routes that minimize their travel time.
- **Serious recreational cyclists** who often are out for a long ride and are not intimidated by hills or traffic. This group usually prefers wide shoulders or bike lanes, but the lack of these facilities does not affect their choice of a route. Unlike bicycle commuters, this group puts more importance on riding a scenic route where they can ride fast, than they do on time-savings.

- **Family or touring bicyclists**, with or without children, who want to see the sights and the beauty of the Presidio. Their choice of routes is affected by traffic and hills, and just as importantly, the route's access to the Presidio's major attractions, such as the Golden Gate Bridge, Fort Point, Crissy Field, the Golden Gate Promenade, and the Visitor Center. They would prefer to be on multi-use trails or roadways with little or no traffic. Often these users may not ride at all unless bikeways meet these conditions.
- **Skaters and skateboarders** who are out for a recreational skate or ride can be accommodated on hardened pedestrian and multi-use trails.

Trails and Bikeways Classification System

The three basic trail classifications of the Trails and Bikeways Master Plan are pedestrian trails, multi-use trails, and bikeways.

Accessible trails, which apply to both pedestrian and multi-use trails, are described with "outdoor recreation access routes" which connect elements within sites such as trailheads, campgrounds and picnic areas, and "beach access routes" which link trails to the shoreline.

Table 3-1 summarizes major trail type characteristics and design guidelines.

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	PEDESTRIAN TRAILS		MULTI-USE TRAILS	BIKEWAYS		WHEELCHAIR ACCESSIBLE TRAILS		
	Primary Trails	Secondary Trails	(Class I)	Striped Bike Lanes (Class II)	Shared Roadway (Class III)	Pedestrian or Multi-use	Outdoor Recreation Access Route	Beach Access Route
Description	Major interconnected routes to provide access to important Presidio destinations	Secondary routes to provide users access to specific cultural, historical, natural, and scenic resources	Major routes between destinations for pedestrians, slower-speed recreational cyclists, and other users as a shared trail separated from auto traffic	Bike lanes on each side of the roadway, or uphill bike lanes only	Shared routes (auto and bicycle) on service roads and low auto volume roadways	Accessible portions of pedestrian and multi-use routes	A continuous, unobstructed path that connects accessible elements within a picnic area, campground, or designated trailhead	An accessible route to link nearby main trail routes to some of the Presidio's important coastal beaches
Surface	Soft surfaces and hard surfaces	Soft surfaces and hard surfaces	Generally hardened surfaces with buffers, which are soft-surface walking or running paths	Pavement	Pavement surfaces may be upgraded	Firm, stable and slip-resistant	Firm, stable and slip-resistant	Boardwalk or other firm, stable and slip resistant surface
Width	Between 1.2 m and 1.8 m (4 to 6 ft)	Typically narrower than primary trails and between 0.6 m and 1.2 m (2 to 4 ft), except 0.9 m to 1.5 m (3 to 5 ft) for accessible trails	From 2.4 to 3 m (8 to 10 ft) hardened surfaces and 0.6 m (2 ft) buffer on both sides	Typically 1.5 m (5 ft) wide; steep uphill segments may be wider; minimum of 1.5 m (3 ft) where design conditions allow	NA	1.5 m (5 ft) or greater with a minimum of 0.9 m (3 ft)	At least 1.5 m (5 ft) wide	At least 1.5 m (5 ft)

Table 3-1. Trails and Bikeways Classification

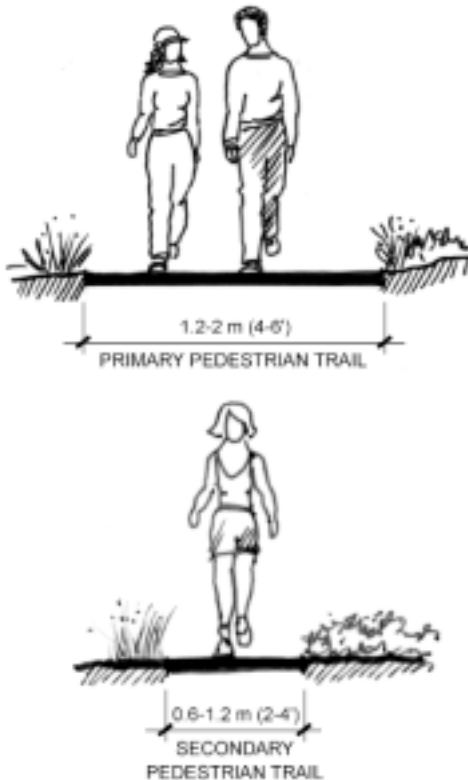


Figure 3-1. Pedestrian Trails

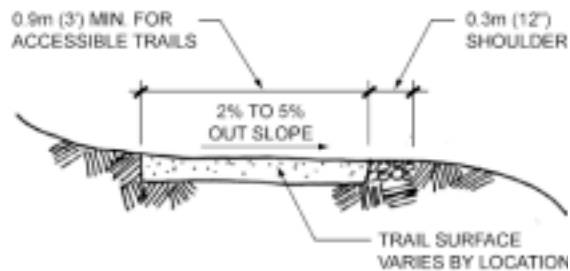


Figure 3-2. Pedestrian Trail Detail

Pedestrian Trails

The plan classifies pedestrian trails as primary or secondary (Fig. 3-1).

- Primary trails occur in the major trail and road corridors, and provide connecting routes to important Presidio destinations. Wider trails accommodate a larger number of trail users.
- Secondary trails offer visitors, residents, and tenants the opportunity to experience many of the Presidio's environments and the many cultural, historical, natural and scenic resources.

In all action alternatives, primary and secondary pedestrian trails would be designed for a wide range of pedestrian use (Fig. 3-2). Typically, secondary trails would be soft-surfaced, single-track footpaths, while primary trails would be wider and hard-surfaced. Both would have firm, slip-resistant surfaces.

Surface

Surfaces would be designed to encourage users to stay on trails, avoid erosion, and to maintain soil cover over tree and other plant roots.

Depending on the intended use of the trail, underlying soil, and nearby resources, trail surfaces

Sidewalks and Designated Trails

There are many sidewalks throughout the Presidio. Many of these sidewalks are not part of the proposed designated trails system. The Presidio Trails and Bikeways Master Plan designates trail corridors, which include segments of, but not all, Presidio sidewalks. Presidio visitors are free to use any sidewalks available, beyond those that are designated as specific trails.



A Presidio Sidewalk

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Social Trails

The classification system does not include social trails, which are unofficial, unplanned, informal paths or shortcuts that have been created by consistent human use. Over 9 miles of social trails have been mapped, and many more exist. In some cases, these unplanned and non-maintained trails cross through areas of fragile natural and cultural resources. Although they may appear no different than other trails to users, social trails tend to have a greater impact on natural, cultural, and historic resources than other routes that were designed and constructed as trails. Since there are many social trails in the Presidio, they figure in each action alternative. All action alternatives include the following social trail recommendations:

- Upgrading some social trails to an official pedestrian or multi-use trail, including making improvements to reduce impacts to park natural and cultural resources, increase visitor safety and enjoyment, and increase accessibility for persons with disabilities.
- Closing many social trails to increase visitor safety and/or protect Presidio natural, cultural, and historic resources.
- Replacing some social trails with a designed trail in the same general area to maintain important connections while enhancing public safety and resource preservation.

could be soft (permeable) or hard (with varying degrees of permeability). For example, the trail surface might be on boardwalks, designed to protect resources or provide access in areas with unstable surfaces, such as beaches or sandy soils.

Examples of soft surfaces include soil, crushed rock, sand, mulch, and rubber-based paving. Hardened surfaces include asphalt (permeable or impermeable), concrete, crushed rock or soil stabilized with resin products or cement, and open or solid masonry such as brick, "Turf-block" or other cast concrete products. Other hard surfaces include boardwalks, bridges, steel grates or plates.

Width

Pedestrian trails would vary in width. Typically, clear tread widths of trails could range from 0.6 meters to 1.8 meters (2 feet to 6 feet).

Grades

Pedestrian trails would be designed with grades ranging from flat to steep, to provide trail users with a variety of challenges. In general, steep trails would have hardened surfaces to avoid erosion, and boardwalks would have easy grades. Pedestrian trails may include stairs or bridges.

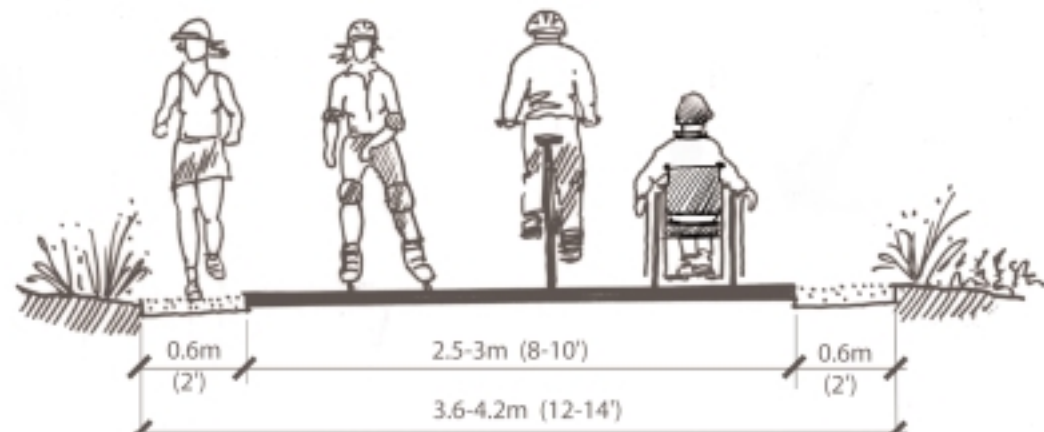


Figure 3-3. Multi-use Trail

Buffers

Where feasible and appropriate, a planted or constructed buffer would separate pedestrian trails from roadways.

Access

Both the proposed pedestrian and multi-use trail network would also increase trail accessibility for people with disabilities, although not all pedestrian and multi-use trails would be fully accessible because of steep grades and other constraints.

Multi-use Trails

Multi-use trails offer safe, enjoyable opportunities to travel through the Presidio for pedestrians, slower-speed recreational or family bicyclists, non-motorized wheeled sports users and groups with a combination of the above (Figure 3-3). These trails would provide major connections between important Presidio destinations, entry gates, and other local, regional, and national trail systems. Multi-use trails are the same classification as CalTrans Class I bikepaths (CalTrans 2001).

All multi-use trails proposed in this plan would be designed to meet or exceed the minimum design standards of American Association of

State Highway and Transportation Officials (AASHTO 1999). Where width is available, facilities will be designed to meet recommended rather than minimum widths. Exceptions will be considered where a facility is unable to meet the minimum AASHTO design standards due to constraints related to topography, natural or cultural resources, or other factors. Consideration will include an evaluation of the potential impacts and benefits of the project and development of a context-sensitive solution, including design elements to minimize impacts and to provide a safe non-standard facility.

Multi-use trails would be located on existing former roadways, or in previously developed areas whenever feasible. All new multi-use trails would be designed to minimize impact to natural or cultural resources. Some former service roads currently used as informal, multi-use trails would be developed as official multi-use trails.

Surface

Multi-use trails generally have hardened surfaces and adjacent soft-surface buffers that can be used as walking or running paths. Hardened surfaces for most multi-use trails could consist of asphalt or granular aggregate material

stabilized with a binder. Soft-surface portions could be fine granular stone (crushed rock or decomposed granite). Trails for skaters would need a smooth, paved surface.

Width

Typically, multi-use trail corridors would range from 3.6 meters to 4.2 meters (12 feet to 14 feet) wide. The trail corridor would have a hard surface, 2.4 meters to 3 meters (8 feet to 10 feet) wide, with 0.6 meters (2 feet) wide soft-surface buffers on both sides. The preferred clear tread width of hard surfaced multi-use trails is 3 meters (10 feet). Multi-use trails with less use can have a width of 2.5 meters (8 feet).

Grade

In general, multi-use trails would have easy grades. Minimum running slopes of no more than 1:20 (5 percent) provide greater accessibility for persons with disabilities and bicyclists. Where steeper grades are needed, the AASHTO guidelines would apply. Where feasible, cross slopes would be kept to a minimum of 1:50 (2 percent), unless a curve requires a greater cross-slope for safety or to ensure proper drainage (Figure 3-4).

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Edge Protection

Some types of edge protection, such as raised surface elements, curbs, or rails that are immediately adjacent to the paved surface, may be of concern to bicyclists and skaters. Proposed multi-use trails would consider the special safety needs of these users by providing a wide path of travel away from curbs or rails.

Obstacles

Bicyclists have a higher vertical profile than do other trail users. For this reason, a minimum of 3 meters (10 feet) vertical clearance would be provided on multi-use trails. Tread obstacles such as steps or waterbars would typically be avoided on multi-use trails. Openings large enough to permit wheelchair or bicycle wheels to enter would be avoided. Drainage grates may be located outside the trailbed. Where this is not feasible, grates would be designed for wheelchair and bicycle safety. For example, grates that use small openings perpendicular to the path of travel would be selected.

Buffers

Where feasible and appropriate, a planted or constructed buffer would separate multi-use trails from roadways.

Bikeways

Nearly all Presidio roads (whether they have pavement markings or not), are currently open for bicycle use. In the Trails and Bikeways Master Plan, Presidio bikeways would continue to make important connections to City of San Francisco bicycle routes and other local and regional bikeways.

Bikeway classifications used in this plan are consistent with federal guidelines (AASHTO 1999). However, many Presidio bikeways connect to bikeways and bike routes outside the park. For this reason, and to provide information in a context that is familiar to most readers, the plan also identifies Caltrans bikeway classifications for each type of bikeway (Caltrans 2001). Only on-street facilities (Class II and III bike routes) are considered in this classification. Class II bikeways are marked on-

street bike lanes. Class III bikeways indicate a signed bike route where bikes and cars share a lane. Off-street bikeways (Class I) are addressed as multi-use trails. Only designated bikeways are mapped in this plan, although nearly all roadways in the Presidio would continue to be open to bicycle use.

Road width constraints are the primary determinant for the type of bikeway provided. Where possible, striped bike lanes would be provided on both sides of major roads. In a few instances where road width is constrained, only uphill bike lanes are proposed. Striped wide shoulders may be appropriate for Class III bike routes on shared roadways where width constraints preclude bike lanes. On some low-volume streets, bicyclists would continue to share roadways with motor vehicle traffic without lane or shoulder marking. In some

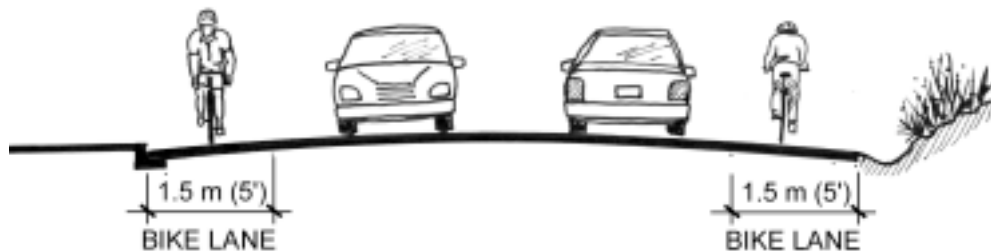


Figure 3-4. Typical Bike Lanes on Roadway

instances, roadways would be incrementally widened to provide a safe bikeway in each direction.

Presidio bikeways would provide a range of difficulty, from easy to challenging. All action alternatives would improve roadway safety for bicyclists, and ensure that there are no gaps in the bicycle circulation network.

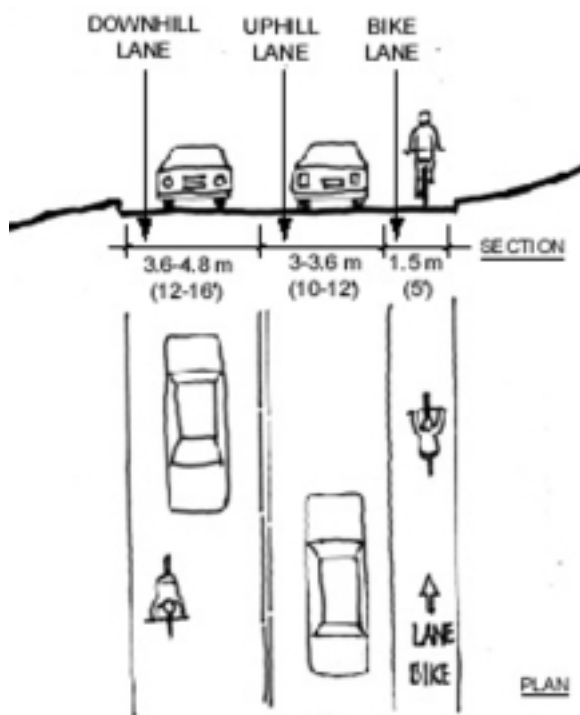


Figure 3-5. Uphill Bike Lane

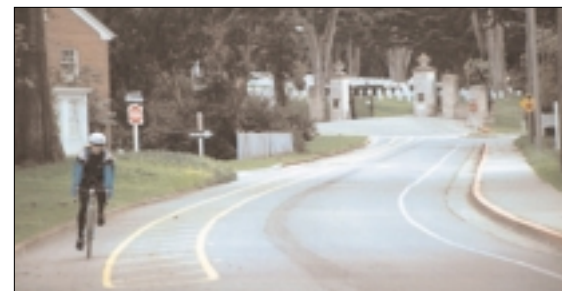
Bikeway Design

All bikeways proposed in this plan would be designed to meet or exceed the minimum design standards of AASHTO 1999. Where paved width is available, facilities will be designed to meet recommended rather than minimum widths. Exceptions will be considered where a facility is unable to meet the minimum AASHTO design standards due to constraints related to topography, natural or cultural resources, or other factors. Consideration will include an evaluation of the potential impacts and benefits of the project and development of context-sensitive solutions, including design elements to minimize impacts and to provide a safe non-standard facility.

The Trails Plan recommends bikeways to accommodate all bicycle user groups, conform to roadway constraints, and accommodate varied traffic volumes on roadways. These rec-



Figure 3-6. Shared Roadway



Contraflow Cyclist on One-way Segment of Lincoln Boulevard

ommendations address major streets used mainly by experienced cyclists – such as Presidio Boulevard and Lincoln Boulevard – as well as roads used by family and recreational cyclists. Providing continuity on street-based bikeways for recreational cyclists is challenging. Some cyclists will not use busy roadways to fill gaps in their routes. Therefore, some multi-use trails would be provided along busy roadways, such as Lincoln Boulevard. All action alternatives include the following bikeway design guidelines:

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- *Marked bike lanes on each side of the roadway (Class II):* Bike lanes 1.5 meters (5 feet) wide or greater are preferred. AASHTO guidelines allow for narrower bike lanes in certain circumstances. Bike lanes would be provided and striped on each side of the roadway (Figure 3-5).
- *Marked bike lane in the uphill direction only (Class II):* In constrained sections on sustained grades – for example, on Arguello Boulevard and Presidio Boulevard – to provide bike lanes in both directions without widening the road, an uphill bike lane would serve as a climbing lane for bicyclists (Fig. 3-6). Downhill bicyclists would be permitted to use the signed, full traffic lane with cars. Bicycles can achieve the same or nearly the same speed as motor vehicles. In addition, it can be unsafe to confine fast-moving downhill bicyclists to a narrow bike lane at higher speeds.
- *Marked bike lanes on one-way streets (Class II):* Since Presidio streets are not laid out in a grid pattern, some existing one-way road sections require bicyclists to travel significantly out of their way. This encourages some bicyclists to ride against traffic. Circulation for bicycles in both

directions is needed on some of these one-way sections. As an example, a short segment of Lincoln Boulevard near the Main Post currently is striped to have a “contraflow” (against the direction of auto traffic) bike lane. Contraflow and with-flow bike lanes would be considered for the one-way sections of Crissy Field Avenue, and Washington Boulevard between Kobbe Street and Lincoln Avenue.

- *Shared roadway (Class III bike routes):* Some roadways and service roads have low traffic volumes that are not likely to increase in the future. On those roads, bicyclists and motorists can share the road without marked bike lanes and/or shoulders (Figure 3-7). These segments are often short and traffic speeds are correspondingly low. In these cases, the roadway would be signed as a bike route. Signage per AASHTO guidelines or state motor vehicle code would notify motorists that bicyclists are allowed full use of the lane.

Surface

Typically, bikeways would occur on existing pavement. If roads were widened to accommodate bikeways, the new bikeways would be constructed of the same material as

the roadway. Where feasible, bikeways would be designed with smooth surfaces and would be free of obstacles such as drainage inlet grates. Grates in bikeways will be to Caltrans Standard Plan D778B.

Grade

Bikeway grades would follow existing roadway grades and vary from nearly flat to very steep.

Signs

Bikeways would be signed to indicate appropriate usage for cyclists and motorists.

Buffers

Class II bike lanes would be separated from motor vehicle traffic by bike lane markings rather than raised pavement markings or raised barriers, because those can cause steering difficulties for bicyclists.

Accessibility

In this plan “access” and “accessibility” refer to the provision of opportunities for people of differing abilities to travel to a site or along a trail. The ADA Accessibility Guidelines (ADAAG) provide a set of uniform design requirements that ensure access to public and commercial spaces. These guidelines already provide general

technical requirements for public and commercial facilities, such as restrooms, parking, and accessible routes of travel that also apply to recreation facilities. The Federal Access Board has published new guidelines for accessible trail construction and trail rehabilitation, which will be incorporated into the existing ADAAG guidelines (Regulatory Negotiation Committee 1999). The guidelines provide additional guidance specific to trails that address the slope and cross-slope of the trail, resting intervals and passing areas, the width and stability of trail surface, and signs that alert visitors with disabilities to trail conditions. These guidelines apply to the pedestrian trails and multi-use trails proposed in this plan's action alternatives and would apply where feasible. The following are instances where these guidelines would not be feasible:

- If compliance would cause substantial harm to cultural, historic, or significant natural features or characteristics;
- If compliance would substantially alter the nature of the setting or the purpose of the trail;
- If compliance would require construction methods or materials that are prohibited by law; or

- If compliance would not be feasible due to terrain or prevailing construction practices.

If a trail cannot meet the guidelines because of any of the above exceptions, efforts would be made to ensure that as much of the trail as feasible is accessible. These exceptions allow steep trails or trails with steps to be developed in some areas where existing conditions prohibit constructing accessible pedestrian trails. Signage at trailheads would provide information about trail conditions to visitors with disabilities.

Accessible Trails

Accessible pedestrian and multi-use trails would meet these additional requirements:

Surface

Soft surfaces will be stabilized to provide increased trail accessibility. Trails can be stabilized using amendments of crushed rock, fine granular stone (also referred to as crushed rock or decomposed granite), or recycled materials to strengthen and improve the natural surface. Hard surfaces may include soil treated with soil stabilizers, asphalt, concrete, or boardwalk (wood, recycled wood, or plastic lumber).

Width

The minimum width of accessible trails is 0.9 m (3 feet). When trails have less than 1.5 meters (5 feet) of clear tread width, passing spaces will be provided at least every 300 meters (1000 feet). Boardwalks will have a minimum clear tread width of 1.5 meters (5 feet).

Grade

No more than 30 percent of the total length of a designated accessible trail will exceed a running slope of 1:12 (8.3 percent) or have a cross slope greater than 1:20 (5 percent). In general, the running slope of an accessible trail would be less than 1:20 (5 percent), however, steeper trails could be considered accessible in the following conditions:

- Maximum "running slope" (in the direction of travel) of 1:12 (8.3 percent) for 60 meters (200 feet) with resting intervals.
- Maximum running slope of 1:10 (10 percent) for 9 meters (30 feet) with resting intervals.
- Maximum running slope of 1:8 (12.5 percent) for 3 meters (10 feet) with resting intervals.

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Resting Intervals

Due to the Presidio's steep terrain, existing trails have running slopes close to the maximum for accessible trails. Resting intervals, properly spaced, provide a greater degree of accessibility for persons with disabilities. These resting areas would be at least 1.5 meters (5 feet) long and as wide as the trail, with a preferred cross slope of 1:50 (2 percent) and a maximum cross slope of 1:20 (5 percent).

Edge Protection

Edge protection is often provided on trails to increase safety. If it is provided, it would be at least 75 mm (3 inches) high. A lower surface might not be obvious or detectable to people with limited vision who use canes.

Obstacles

The presence of any of the following obstacles would prevent a pedestrian trail from being a designated accessible trail and should be minimized:

- Openings in trail surfaces that allow the passage of a 13 mm (½ inch) diameter sphere, or elongated openings that are parallel to the dominant direction of travel that allow the passage of a 6.5 mm (¼ inch) diameter sphere.

- Protruding objects, for example signs, that are less than 2 meters (80 inches) above the trail surface.
- Tread obstacles such as water bars greater than 50 mm (2 inches) high. On trails with running slopes and cross slopes less than 1:20 (5 percent), tread obstacles, even those with beveled edges, should not be greater than 75 mm (3 inches) high.

Outdoor Recreation Access Routes

An outdoor recreation access route is a continuous, unobstructed path designated for

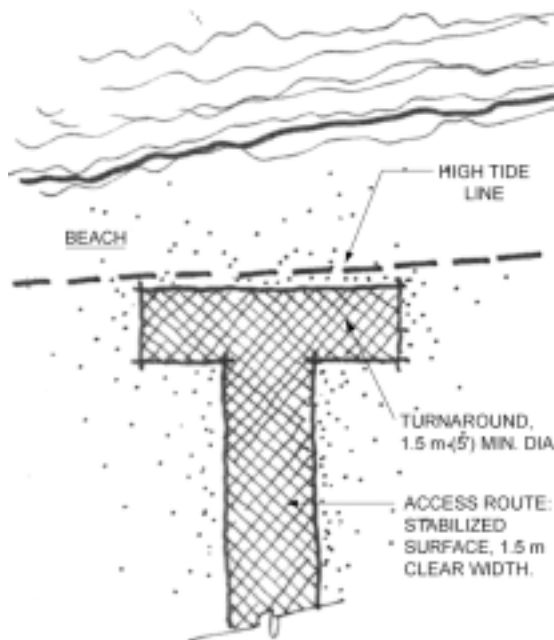


Figure 3-7. Beach Access Route (Plastic Mat Option)

pedestrian use. It connects accessible elements at picnic areas, campgrounds, designated trailheads, and designated overlooks. These routes would be provided in all action alternatives. In general, the recommendations for outdoor access routes are identical to those for accessible trails, with the following exceptions:

- Passing spaces would be provided at least every 60 meters (200 feet) when trails have less than a 1.5 meter (5 feet) clear tread width.
- Cross slopes of these routes would not exceed 1:33 (3 percent) except in areas where steeper cross slopes are necessary to ensure proper drainage. Those cross slopes would not exceed 1:20 (5 percent).
- Maximum running slope would be 1:20 (5 percent).
- No surface obstacles greater than 25 mm (1 inch) high would be permitted, or 50 mm (2 inches) if the edges of the obstacle are beveled.

Beach Access Routes

Beach access routes link nearby main trail routes to the high tide line (Fig. 3-8). They would be provided in all action alternatives in



A Presidio Overlook at Dusk

this plan. These routes would provide access near the high-tide line at Baker Beach and Crissy Field. In general, the recommendations for beach access routes are identical to those for outdoor access routes, with the following exceptions:

- Maneuvering, resting, and viewing spaces would be provided at the high-tide level, normal recreation water level, or at the end of each beach access route. These spaces would be at least 1.5 meters by 1.5 meters (5 feet by 5 feet) and would not overlap with the route.
- Curbs, walls, or edge protection at least 50 mm (2 inches) high would be provided if

the drop-off from the route to the beach is greater than 150 mm (6 inches). If the drop-off is less than 150 mm (6 inches), but greater than 25 mm (1 inch), the route edge would be beveled.

Trail Features

There are three trail features common to each of the three action alternatives – overlooks, trailheads, and trail signs.

Overlooks

Overlooks provide opportunities for park visitors to pause and enjoy a spectacular natural feature, observe wildlife, or take in a unique view of an impressive structure or building. Primary overlooks would be located along Presidio roadways. In some cases, an overlook might also function as a trailhead. Primary overlooks would include such facilities as:

- Automobile parking, including parking spaces reserved for persons with disabilities;
- Interpretive signage;
- Access to site elements;
- Places to sit; and
- Other amenities, such as trash receptacles and bike parking.

Secondary overlooks would occur on trails without auto access. These secondary overlooks would be designed to take advantage of unique viewpoints resulting from trail alignment and topography. These "off the beaten track" overlooks are intended as quiet places of solitude.

Most overlooks would be accessible to persons with disabilities. This plan considers making improvements to existing overlooks and their viewing areas, and developing new accessible overlooks. If viewing areas are provided on designated overlooks, each viewing area would have at least one wheelchair maneuvering space with a firm and stable surface. The following specific requirements would apply:

- The maneuvering space would have a minimum dimension of 1.5 meters (5 feet) diameter and typically 1:50 (2 percent)

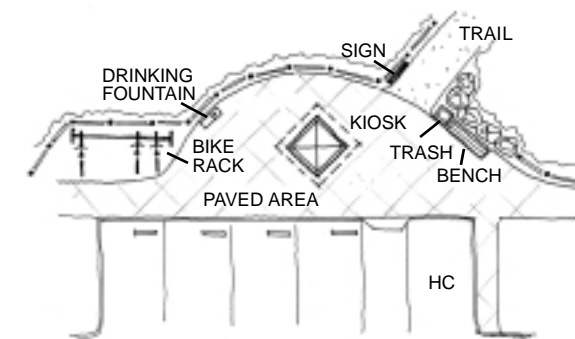


Figure 3-8. Primary Trailhead

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slope in any direction (in areas where a steeper slope is necessary to ensure proper drainage, a 1:33 or 3 percent slope would be permissible);

- Overlooks would provide at least one unrestricted viewing opportunity for each distinct point of interest at a height between 0.8 m (32 inches) and 1.3 m (51 inches).

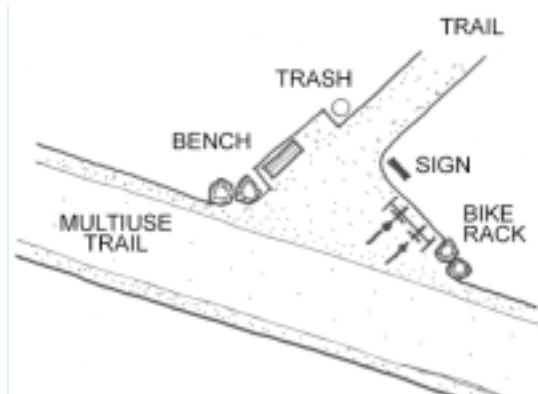


Figure 3-9. Secondary Trailhead

Trailheads

Trailheads typically serve as multi-modal transfer points, allowing users to change from transit or auto to bicycle or foot; or from bicycle to foot. Trailheads would provide trail information and user amenities where appropriate. Trailheads would incorporate

many, if not all, of the following elements:

- Convenient access to shuttle and/or transit stops;
- Automobile parking, including parking spaces reserved for persons with disabilities;
- Secure bicycle parking (racks or lockers);
- Wayfinding kiosks, with orientation and interpretive information;
- Standard trail signs with information regarding trail conditions and degrees of difficulty;
- Drinking water;

- Restrooms or directions to restrooms;
- Scenic viewpoints or overlooks;
- Places to sit; and
- Staging or gathering spaces.

The plan includes two trailhead types, primary and secondary. Both types would be located where they would provide access to major trail starting points, to locations where major trails converge, and to the starting points of accessible trails.

Primary trailheads include automobile parking and most of the elements listed above (Fig. 3-9).

Secondary trailheads would provide a limited set of standard components, such as trail information and bicycle parking (Fig. 3-10). These trailheads would not provide auto parking, and would be most appropriate for changing the mode of travel from bicycle to foot.

Trail Signs

Several types of trail signs would be used in the action alternatives to provide visitors with information about directions, trail conditions, and trail locations. In the No Action Alternative, existing signage would be used (Fig. 3-11).



Figure 3-10. Existing Trail Marker, Bay Area Ridge Trail

Signage would comply with NPS and Presidio Trust sign guidelines. The Presidio is within the National Historic Landmark District and signs would be subject to review under the National Historic Landmark Preservation Act (NNPA). Signs would be designed and sited to avoid adversely affecting the features that contribute to the landmark status of the Presidio, and to be compatible with, and sensitive to, the Presidio's historic character.

Trailhead Signs. Trailhead signs would be located at the starting points of trails and at key intersections of major trail corridors. These signs may provide some or all of the following information:

- Name of the trail;
- Running and cross slope;
- Clear tread width;
- Trail surface characteristics;
- Distance to points of interest; and
- Trail elevation change.

Designated accessible trails would display the international symbol of accessibility.

If the trail is not accessible it will be signed "Not Accessible" at the trailhead.

Directional Signs. Directional signs would be located at key trail intersections and indicate the direction to major park destinations and trails.

Trail Markers. Trail markers similar to the Bay Area Ridge Trail markers, would identify each trail along its entire route. The post signs would include:

- A trail logo identifying the particular trail;
- A trail symbol indicating permitted trail use(s); and
- A direction indicator.

Best Management Practices

Best Management Practices (BMPs) are trail construction techniques that incorporate resource conservation and management practices. The techniques are included in the project to avoid or minimize adverse impacts on natural and cultural resources, increase trail safety, and minimize user conflicts. BMPs can include schedules for activities, regulations, maintenance and design guidelines, and other trails and bikeways management practices. The BMPs are intended to supplement, not replace, existing NPS/Trust trail management and maintenance practices. The proposed BMPs are the same for all action alternatives (B, C, and

D), and are based on the principle that avoidance of sensitive resources, such as wetlands, special status species, or archeological sites is a top priority of both agencies. In the future, knowledge gained through operational experience and technological advances would be used to refine and improve the BMPs.

The BMPs would apply to all action alternatives. The No Action Alternative would continue current maintenance and management practices. The BMPs are divided into ten general categories:

- 1) Drainage control;
- 2) Trails in wet areas;
- 3) Trails on steep cross slopes;
- 4) Trails on flat grades;
- 5) Eroding and hazardous trail edges;
- 6) Trails on sandy soils;
- 7) Trails damaged by vehicle use;
- 8) Road-based user conflicts;
- 9) Social trail closures;
- 10) Trails in proximity to sensitive resources;
- 11) Air quality; and
- 12) Natural resource conservation measures.

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